IN THE UNITED STATES
PATENT AND TRADEMARK OFFICE

Attorney Docket No.: **Juniper-26 (JNP-0325)**

Appl. No.: **10/702,184**

Appellant: **Ina MINEI, et al.**

Filed: **November 5, 2003**

Title: **CONTROLLING THE SIGNALING OF LABEL-SWITCHED PATHS USING A LABEL DISTRIBUTION PROTOCOL EMPLOYING MESSAGES WHICH FACILITATE THE USE OF EXTERNAL PREFIXES**

TC/A.U.: **2155**

Examiner: **Bharat Barot**

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S I R:

**REPLY BRIEF**

Further to the Examiner's Answer mailed on April 16, 2009, which set a period for response to expire on June 16, 2009, and the Supplemental Examiner's Answer mailed May 15, 2009 (Paper No. 20090512), which effectively reset a period for response to expire on July 15, 2009, the Appellant requests that the Board reverse all outstanding grounds of rejection in view of the following.

## Argument

This Reply Brief incorporates by reference, the earlier Appeal Brief filed on December 1, 2008. Accordingly, the arguments presented in this Reply Brief are intended to ***supplement, not replace***, arguments presented in the earlier filed Appeal Brief. Further, since the arguments presented here are intended to supplement arguments in the Appeal Brief, the claims are to be grouped in accordance with the separate headings provided in the Appeal Brief and nothing in this Reply Brief shall constitute a waiver of any argument that the Board must consider the patentability of the separately grouped claims separately.

***Reply to "Response to Argument" Section of the Examiner's Answer***

The Appellant addresses the Examiner's remarks in the "Response to Argument" section (pages 15-21) of the Examiner's Answer below.

**Item 30(A):**

The Appellant acknowledges the Examiner's withdrawal of the objections to claims 45-48 and thanks the Examiner for the same.

**Item 30(B):**

In response to the Appellant's 35 U.S.C. § 101 arguments with respect to claims 14, 16, 17, 19 and 24, the Examiner reiterates the same arguments presented in the final Office Action mailed May 29, 2008 (Paper No. 20080514).

Thus, the Appellant maintains the arguments presented in the Appeal Brief in response to the Examiner 35 U.S.C. § 101 rejection of claims 14, 16, 17, 19 and 24. Specifically, as detailed in the Appeal Brief, claim 14 recites that each of the three fields is stored in association with a label-switched path. Accordingly, the claim recites "a physical or logical relationship among data elements, designed to support specific data manipulation functions," and not a mere collection of unrelated fields. Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility," OG Notices, (November 22, 2005).

In addition, the Appellant respectfully notes that the data structure need not be program instructions executable by a computer or a processor. Indeed, Guidelines of the US Patent Office state:

> a claimed computer-readable medium encoded with a data structure defines structural and functional interrelationships between the data structure and the computer software and hardware components which permit the data structure's functionality to be realized, and is thus statutory

"Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility," OG Notices, (November 22, 2005).

Furthermore, claim 14 clearly recites the functional utility provided by the data structure when processed by a forwarding device. Specifically, claim 14 recites in pertinent part:

> wherein a forwarding device, receiving the message, processes the message to (1) determine whether or not the forwarding device has a routing table entry that matches at least one of (A) the forwarding equivalency class information included in the second field, and (B) the host address or the host prefix included in the third field, and (2) use the label included in the first field for forwarding data only if the forwarding device determined that the forwarding device has a routing table entry that matches at least one of (A) the forwarding equivalency class information included in the second field, and (B) the host address or the host prefix included in the third field.

Thus, claim 14 recites a physical or logical relationship among data elements, designed to support specific data manipulation functions (i.e., functional descriptive material) stored on a machine-readable storage device. (Note that the exemplary storage devices described in paragraph [0061] of the specification of the present application may be computer-readable.)

The Appellant respectfully submits that claims 14, 16, 17, 19 and 24 recite statutory subject matter in view of the foregoing. (Claims 16, 17, 19 and 24 directly or indirectly depend from claim 14.) Consequently, the

Appellant respectfully requests that the Board reverse this ground of rejection.

**Item 30(C):**

In rejecting claims 1 and 25, the Examiner contends that Figures 8 and 9 of the Tinsley patent teach a method for establishing a label-switched path. (See Paper No. 20080514, page 3.) However, as detailed in the Appeal Brief, the Appellant notes that the Tinsley patent does not concern receiving a message for ***establishing*** a label-switched path (LSP) as recited in claims 1 and 25. Although multiprotocol label switching (MPLS) can provide a label-switched path, the Tinsley patent is concerned with communications that might be facilitated by ***previously established*** MPLS-based label-switched paths. Further, although Signaling System No. 7 (SS7) discussed in the Tinsley patent concerns call setup, call teardown and database access features, it does not concern establishing a ***label-switched path***. Thus, the Tinsley patent clearly does not teach ***establishing*** a label-switched path.

Despite the Appellant's argument, the Examiner maintains that the Tinsley patent teaches a method for establishing a label-switched path meeting all of the claim recitations. In addition, the Examiner states that the Renwick patent teaches this feature as well. (See Examiner's Answer, page 16.) This argument, however, is beside the point. The Appellant has acknowledged that the Renwick patent concerns establishing label-switched paths in the Appeal Brief. (See page 17 of the Appeal Brief.) However, regardless of whether the Renwick

patent teaches establishing a label-switched path, the Appellant's argument continues to be that the Tinsley and Renwick patents fail to teach or make obvious determining whether or not a message includes extended information, if the message does not include extended information, determining, using a first part of the message and routing information, whether or not to generate a further message to signal the label-switched path, and if the message does include extended information, determining, using a second part of the message and routing information, whether or not to generate a further message to signal the label-switched path as detailed in the Appeal Brief.

**Items 30(D)-(F):**

The Appellant would like to summarize its understanding of the Examiner's position presented in Items 30(D)-(F), and note inadequacies with that position. For reference purposes, pending claim 1 on Appeal recites:

> A method comprising:
> a) receiving a message for establishing a label-switched path;
> b) determining whether or not the message includes extended information;
> c) if the message does not include extended information, determining, using a first part of the message and routing information, whether or not to generate a further message to signal the label-switched path; and
> d) if the message does include extended information, determining,

> using a second part of the message and routing information, whether or nor to generate a further message to signal the label-switched path.

In rejecting claim 1, the Examiner's general position is that the Tinsley patent teaches determining whether or not the message includes extended information and ***using specific routing information based on the determination step***. (See Examiner's Answer, page 18.). More specifically, the Examiner contends that the IPV6 header (602 of Figure 6(A) of the Tinsley patent) teaches the recited "first part of a message" and the MPLS header (604 of Figures 6(A) and 6(B) of the Tinsley patent) as both the claimed "second part of a message" and the claimed "extended information". (See Examiner's Answer, page 17 and Paper No. 20080514, page 3.)

However, using specific routing information based on the determination step of whether or not a message includes an MPLS header does not teach or make obvious determining whether or not to generate a further message to signal a label-switched path. Specifically, as detailed in the Appeal Brief, packet 600 of Figures 6(A) and 6(B) of the Tinsley patent is for carrying data to be communicated among distributed SS7 distributed gateway routing elements (DGREs). The IP header 602 and MPLS header 604 are simply used to ***forward the packets***, and ***are not used to determine whether or not to generate a further message to signal a label-switched path.***

The Examiner concedes that the Tinsley patent does not teach determining whether or not to generate a further message to signal the label-switched path. (See

Paper No. 20080514, page 3.) However, in the Examiner's Answer the Examiner states with respect to this feature:

> Specifically, Tinsley patent discloses that message has only IPv6 header and extension headers are optional, and routing the packet based on its IP header information (column 5 lines 57-66 and column 6 lines 56-65), ***which inherently implies not to generate a further message to signal the label-switched path.*** Also Tinsley patent discloses that the message has MPLS header, and routing the packet based on its MPLS header information (column 6 line 56 to column 7 line 5); and Renwick patent teaches sending a path setup signal based on the MPLS header (column 2 lines 5-26 and 41-65), which reads on the claimed limitation of generate a further message to signal the label-switched path. [Emphasis added.]

(Examiner's Answer, page 17) However, in the case where a message in the Tinsley patent only includes IP header information and does not generate a further message to signal a label-switched path does not ***inherently*** teach the act of determining not to generate a further message depending on whether or not the message includes extended information. In fact, the Tinsley patent never generates a further message to signal a label-switched path and, thus, never needs to make the determination whether to generate a further message or not.

In addition, the Examiner further cites the Renwick patent as teaching this feature. However, as detailed in the Appeal Brief, the purported teachings of the Renwick patent fail to compensate for the deficiencies of the

Tinsley patent discussed above and in the Appeal Brief. Specifically, the Renwick patent concerns providing techniques for allocating multiple label-switched paths in a route that has multiple physical links using MPLS. The Renwick patent attempts to distribute traffic to relieve congestion while ensuring that the traffic of individual flows is not routed over different paths. Although the Renwick patent concerns establishing label-switched paths, it does not ***determine whether to use a first part or a second part of a message to generate a further message for signaling the label-switched path depending on whether the message includes extended information.***

Finally, the Appellant would also like to address the Examiner's proffered motivation to combine the Tinsley and Renwick patents. The Examiner argues:

> It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Renwick et al in the method of Tinsley et al for generating a further message to signal the label-switched path based on determining whether or not the message includes extended information ***because it would have provided much faster and more efficient than IP forwarding, used efficiently in an environment with multiple parallel links, and saved considerable processing time, which leads to improved network operation***(see Renwick et al column 4 lines 24-35).

(Examiner's Answer, page 18) It is not clear, however, how the foregoing would have motivated a person skilled in the art to modify the Tinsley patent using the

purported teachings of the Renwick patent to produce the claimed invention. Specifically, the Tinsley patent discusses the use of ***previously established*** MPLS paths as an alternative mechanism for providing quality of service (QoS) for call signaling packets. Furthermore, the Tinsley patent states that MPLS switching is faster than IP routing "because it is a layer 2, rather thar a layer 3 function of the IP protocol stack." (Column 6, lines 60-62 of the Tinsley patent) Thus, the advantages cited by the Examiner of using MPLS appear to be already known in the Tinsley patent. However, the Tinsley patent goes on to state:

> Unlike conventional IP routing, MPLS routes are ***established in advance before any data is transferred***. ***Since routes are established in advanced,*** MPLS can be used to establish forward equivalence classes whereby classes of IP packets are guaranteed the same quality of service.

(Column 7, lines 1-5 of the Tinsley patent) As can be appreciated from the foregoing, it is precisely the fact that MPLS routes can be ***established in advance before any data is transferred*** which provides the motivation of using MPLS as an alternative mechanism for providing quality of service (QoS) for call signaling packets.

Further, as detailed in the Appeal Brief, one skilled in the art would not have been motivated to combine these patents as proposed by the Examiner. As stated above, the Examiner concedes that the Tinsley patent does not teach determining whether or not to generate a further message to signal the label-switched

path. (See Paper No. 20080514, page 3.) This is naturally the case since the Tinsley patent discusses using ***previously established*** MPLS paths, with quality of service (QoS) guarantees, thereby defining a virtual interprocessor message transport (IMT) bus to enable communications between distributed DGREs. (See, e.g., column 5, lines 14-25 and column 6, lines 56-59 of the Tinsley patent.) In the Tinsley patent, the IP header 602 and MPLS header 604 are part of a packet 600 used for SS7 call signaling over an existing label-switched path. They are not used for establishing a label-switched path.

Since the Renwick patent concerns establishing multiple label-switched paths in a route that has multiple physical links using MPLS, one skilled in the art would not have been motivated to modify an aspect of the Tinsley patent that occurs ***after a label-switched path already exists*** in view of the Renwick patent.

Even assuming, arguendo, that one skilled in the art were to combine the Tinsley and Renwick patents in their entirety, the results would be a distributed gateway of DGREs performing SS7 routing functions which establishes multiple label-switched paths over multiple physical links for ensuring QoS for communications between the DGREs. However, such a combination would differ from the claimed invention since the label-switched paths established for QoS purposes would not be established based on determining whether to use a first or second part of a message to generate a further message for signaling the label-switched path depending on whether the message includes extended information.

In view of the arguments set forth in the Appeal Brief as well as the foregoing arguments, the Appellant

respectfully requests that the Board reverse this ground of rejection.

**Item 30(G):**

In response to the Appellant's 35 U.S.C. § 103 arguments with respect to claims 14, 16, 17, 19 and 24, the Examiner reiterates the same arguments presented in the final Office Action mailed May 29, 2008 (Paper No. 20080514).

Thus, the Appellant maintains the arguments presented in the Appeal Brief in response to the Examiner 35 U.S.C. § 103 rejection of claims 14, 16, 17, 19 and 24.

**Item 30(H):**

In response to the Appellant's 35 U.S.C. § 103 arguments with respect to claims 6-8, 10, 30-32, 34 and 47, the Examiner states that

> [the] Tinsley [patent] explicitly teaches that the ***extended information or the second part of the message includes resolution next hop information*** (see figures 4A-4B and column 5 line 57 to column 6 line 28.

(Examiner's Answer, page 20)

First, the foregoing interpretation of the "extended information" or "second part of the message" is inconsistent with previous interpretations presented by the Examiner. Specifically, as discussed above with

respect to the rejections of claims 1 and 25, the Examiner has previously characterized the MPLS header (604 of Figures 6(A) and 6(B) of the Tinsley patent) as both the claimed "second part of a message" and the claimed "extended information". (See Examiner's Answer, page 17.) However, it now appears the Examiner considers elements within the IPv6 header depicted in Figures 4A-4B of the Tinsley patent as teaching the extended information and second part of the message. The MPLS header shown in element 604 of Figure 6A and Figure 6B the Tinsley patent, is clearly different than the IP header shown in Figures 4A and 4B and element 602 of Figure 6A.

Second, as detailed in the Appeal Brief, the portion of the Tinsley patent cited by the Examiner does not describe that the IP header and MPLS header information in the Tinsley patent includes ***Resolution Next Hop information***.

Third, regardless of which interpretation above is used, the Tinsley patent does not use any information included in the IP header, nor does it use the MPLS header, to determine whether or not to generate a further message for signaling the label-switched path.

Thus, in view of the arguments set forth in the Appeal Brief as well as the foregoing arguments, the Appellant respectfully requests that the Board reverse this ground of rejection.

**Item 30(I):**

With respect to claims 9 and 33, the Appellant argued that the portions of the Renwick patent cited by

the Examiner in the final Office Action describe ingress and egress routers used within ***a network*** 10 which "includes subnetworks 22 over which packets can be transferred en route from a source node 12 to a destination node 14." (Column 5, lines 6-8 of the Renwick patent) If so, the entire network 10 in the Renwick patent appears to be a single autonomous system ("AS"). Thus, the ingress and egress nodes described in the Renwick patent are not autonomous system border routers since they appear to be functioning within a single autonomous system.

In response to these arguments, the Examiner states:

> Renwick explicitly teaches that the second node is an autonomous system border router (figures 1-2; column 2 lines 5-65; and column 4 line 59 to column 6 line 32). Also Renwick teaches that the egress node sends its allocated label back to the next preceding node, which stores the label and generates its own label for the traffic and transmits that label back to its next preceding node, which implies that the second node is an autonomous system border router (working independently as a router) (see figures 1-2 and column 2 lines 5-65).

(Examiner's Answer, page 20) However, nothing in the Examiner's argument addresses the Appellant's assertion that the entire network 10 in the Renwick patent appears to be a single autonomous system ("AS") and, thus, the ingress and egress nodes described in the Renwick patent are not autonomous system border routers since they appear to be functioning within a single autonomous system.

**Item 30(J):**

In response to the Appellant's 35 U.S.C. § 103 arguments with respect to claims 13 and 37, the Examiner reiterates the same arguments presented in the final Office Action mailed May 29, 2008 (Paper No. 20080514).

Thus, the Appellant maintains the arguments presented in the Appeal Brief in response to the Examiner 35 U.S.C. § 103 rejection of claims 13 and 37.

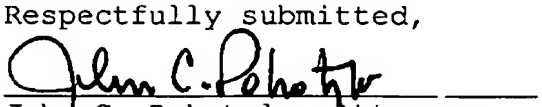
**Conclusion**

In view of the foregoing, ***as well as the arguments presented in the earlier filed Appeal Brief (incorporated herein by reference)*** the Appellant respectfully submits that the pending claims are in condition for allowance. Accordingly, the Appellant requests that the Board reverse each of the outstanding grounds of rejection.

Any arguments made in this Appeal pertain ***only*** to the specific aspects of the invention ***claimed***. Any claim arguments, are made ***without prejudice to, or disclaimer of***, the appellant's right to seek patent protection of any unclaimed (e.g., narrower, broader, different) subject matter, such as by way of a continuation or divisional patent application for example.

Respectfully submitted,

June 16, 2009



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